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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,003	09/29/2006	Catherine Curdy	2590-152	4067
23117 7590 07/23/2009 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203				
EXAMINER				
LE, NINH V				
ART UNIT		PAPER NUMBER		
1791				
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07/23/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/574,003

Applicant(s)

CURDY ET AL.

Examiner

Ninh V. Le

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4-7 and 13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-7 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3/29/06 and 5/11/09 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 3/29/06, 2/25/08, 11/12/08
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This is a non-final Office action in response to the response to a non-final Office action on 10/7/08.

#### ***Information Disclosure Statement***

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

#### ***Drawings***

Objection to the drawing has been withdrawn due to applicant's amendment.

The drawings were received on 5/11/09. These drawings are acceptable.

#### ***Specification***

Objection to the disclosure has been withdrawn due to applicant's amendment.

The disclosure is objected to because of the following informalities: The specification lacks proper heading. Please see following for guideline.

Appropriate correction is required.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

In claim 1 line 4-6, "a homogenization compartment in the form of a cylinder which is defined by a tubular wall forming the casing of said cylinder and by a first side

wall and a second side wall which are positioned at each end of said tubular wall" is not in the disclosure.

In claim 1 line 7-8, "first inlet and a second inlet which pass through said first side wall" is not the disclosure, whereas the specification discloses "the inlet (2) is a hollow tube for delivering the organic phase and the inlet (3) for delivering the aqueous phase" on page 6 line 7-9.

In claim 1 line 10-11, "outlet appropriate for extracting a particle suspension from the homogenization compartment" is not the disclosure, whereas the specification discloses "d) the outlet (5) is in the top wall of the homogenization compartment" on page 5 line 31-32.

In claim 1 line 14, "a) said side walls are positioned along a vertical plane" is not the disclosure.

In claim 1 line 15, "b) the axis of symmetry of said cylinder is positioned horizontally" is not the disclosure.

In claim 1 line 16, "c) the rotor is installed so that it rotates about a horizontal axis which passes through said second side wall" is not the disclosure.

In claim 1 line 18-20, "d) said first inlet is a hollow tube positioned in the extension of the axis of the rotor and comprises a tip situated inside the rotor and inside the stator" is not the disclosure, whereas the specification discloses "b) the tip (6) of said hollow tube is in a volume (A) delimited by the mixing system (4) in the homogenization compartment (1)" on page 5 line 24-26.

In claim 2 line 2, "wherein the rotor and the stator are cylindrical in shape" is not the disclosure.

### ***Claim Objections***

Objection to the claim has been withdrawn due to applicant's amendment.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-2,4-7,13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muller et al. US Patent 5868973 (hereinafter Muller '973). Examiner wishes to point out to applicant that claims 1-2,4-7,13 are directed towards an apparatus and as such will be examined under such conditions. The material worked upon or the processes of

using the apparatus are viewed as recitation of intended use and are given little patentable weight (Please see MPEP 2114 R1-2115 R2 for further details).

**Regarding claims 1-2,4-7,13, Muller '973 discloses as shown in Figures 2-3,** a device for the continuous manufacture of microparticles or nanoparticles from at least one aqueous phase and one organic phase comprising (Column 1 Line 5-23):  
a homogenization compartment (housing (41)) in the form of a cylinder (Figure 3 housing (41)), which is defined by a tubular wall (Figure 3 housing (41)) forming the casing of said cylinder (Figure 3 housing (41)) and by a first side wall (wall side of housing (41) where the dope supply line (3) enters) and a second side wall (wall side of housing (41) between sliding ring seal (64) and stator (45)) which are positioned at each end of said tubular wall (housing (41)); the device additionally comprising a first inlet (dope supply line (3)) and a second inlet (curved feed line (9)) which pass through said first side wall (wall side of housing (41) where the dope supply line (3) enters) and which are appropriate for respectively delivering an organic phase and an aqueous phase to the homogenization compartment (housing (41)) and an outlet (discharge pipe (13)) appropriate for extracting a particle suspension from the homogenization compartment (housing (41)); the homogenization compartment (housing (41)) including a mixing system comprising a rotor/stator combination (rotor (44) stator (45 and 43)), wherein  
a) said side walls are positioned along a plane (wall side of housing (41) where the dope supply line (3) enters) and (wall side of housing (41) between sliding ring seal (64) and stator (45)).

b) the axis of symmetry of said cylinder is positioned in a plane (Figures 2-3 housing (41)),

c) the rotor is installed so that it rotates about an axis (rotor (44)) which passes through said second side wall (wall side of housing (41) between sliding ring seal (64) and stator (45)),

d) said first inlet is a hollow tube (dope supply line (3)) positioned in the extension of the axis of the rotor (rotor (44)) and comprises a tip (nozzle (46-49)) situated inside the rotor (rotor (44)) and inside the stator (stator (43 and 45)), and

e) the homogenization compartment (housing (41)) exhibits a top side on which said outlet (discharge pipe (13); note: it is the Examiner's position that the discharge pipe (13) is situated at a top side) is situated.

Wherein the rotor (rotor (44)) and the stator (stator (43 and 45)) are cylindrical in shape (Note: the sprocket (50) is part of the rotor (44) assembly (Column 9 Line 52) therefore, the rotor also has a cylindrical shape like the sprocket (50) as shown in Figure 3. Additionally, the stator (43) has a ring-shaped base plate (11) (Column 9 Line 60).

Wherein the first inlet (dope supply line (3)) comprises perforations (nozzle (46-49)).

Wherein the number of perforations (nozzle (46-49)) is from 1 to 20 (nozzle (46-49)).

Wherein the perforations (nozzle (46-49)) have a diameter (nozzle diameter between 5 and 10 mm, Column 8 Line 1-2). Wherein the dimensions of the rotor/stator combination (rotor (44) stator (43 and 45)) are such that the mixing system (rotor (44) stator (43 and 45)) occupies a volume of the homogenization compartment (housing (41); note: The



rotor (44) and stator (43 and 45) combination occupies more than 80% of the housing (41)). Wherein the rotor (rotor (44)) and the stator (stator (43 and 45)) comprise a row of teeth (teeth (55)) and have spacing between the teeth (teeth (55); Note: between each teeth (55) there are spacing created by the gap (54)).

Muller '973 discloses the claimed invention except for the side walls which are positioned along a vertical plane, the cylinder having an axis of symmetry that is horizontal, and the rotor rotating about a horizontal axis. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the side walls positioned along a vertical plane, the cylinder having an axis of symmetry that is horizontal, and the rotor rotating about a horizontal axis, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Additionally, Muller '973 discloses the claimed invention except for the perforations having a diameter from 0.01 mm to 1 mm, a mixing system that occupies 4% to 40% of the volume of the homogenization compartment, and the spacing between the teeth is from 1 to 4 mm. However, it would have been obvious to one having ordinary skill in the art at the time of the invention to adjust the perforations to have a diameter from 0.01 mm to 1 mm, the mixing system to occupy 4% to 40% of the volume of the homogenization compartment and to have the spacing between the teeth to be from 1 to 4 mm for the intended application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Note, it is Examiner's position to give little weight to the material worked on or the process of using the apparatus as stated in claims 1-2,4-7,13.

### ***Response to Arguments***

Applicant's arguments, see page 7 line 20-22 page 8 line 1-12, filed 5/11/09, with respect to the rejection(s) of claim(s) 1 under 35 U.S.C. 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Muller et al. US Patent 5868973.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Rasmussen WIPO Publication WO93/10665 (already of record), R.R. Teale US Patent 2641453, and Sander et al. US Patent 4224259.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ninh V. Le whose telephone number is (571)270-3828. The examiner can normally be reached on Monday - Friday 7:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Del Sole can be reached on (571)272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NVL

/Joseph S. Del Sole/  
Supervisory Patent Examiner, Art Unit 1791